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METHODS FOR MARKETING VEGETABLES IN CALIFORNIA

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INTRODUCTION

Those who are contemplating producing vegetables for the market as well as those who have vegetables growing or ready for the market should study the methods by which they may dispose of their crops.

Many are successful growers but fail to dispose of their products in a manner that will bring remunerative returns for the effort expended. This condition is commonly due to the large quantities grown by inexperienced persons who were attracted to this form of agriculture by the heavy demand for vegetables, but who discovered that it was much easier to grow their crops than to sell them advantageously. By a careful survey of the probable causes for many of the failures the writer found the following conditions existing: Quality far below standard, amounts too small to be attractive to wholesale buyers, yet too large for local consumption; crops maturing during seasons when the markets are over-supplied; growing undesirable varieties, use of low-grade seed, and packing in an unmarketable manner.

Even for the successful, experienced gardener there are certain months in which he is sometimes unable to dispose of his products to advantage. It is imperative, when planning the garden, that the following conditions should be carefully studied: In any locality there are always seasons when the demand for certain vegetables will insure a satisfactory profit and the planting calendar should be arranged as nearly as possible to meet this condition. The choice of a suitable variety is of vital importance, for the same variety is not always adapted to all sections of the state and the market demands are so exacting that the grower should know the one which is most desired by the buyers.

It is common for the novice to endeavor to grow new and untried varieties in order to have something different from his competitors. This is often disastrous, for it is impossible for a grower to make any radical changes in the market demands which have been established for years, and he should endeavor to meet these demands as closely as possible.

The question of quality has always been and will always be of first importance; no grower can attain permanent success if this is overlooked. It is sometimes true that when the demand is very great one may sell to good advantage vegetables which are not up to standard, but as the market becomes better supplied the question of quality is of more importance in about the same ratio as the demand

is being met. As the markets become glutted, the one who has the desirable quality can sell at least to fair advantage, while the careless grower is unable to dispose of his crop at any price. The importance of putting up an attractive and uniform pack cannot be overestimated.

It is impossible for any grower, regardless of his former experience, to produce vegetables of good quality unless favorable soil, moisture and climatic conditions are present, and these cultural requirements must be thoroughly known before the final choice of crops is made. It is, therefore, imperative that the grower should have a thorough knowledge of his local conditions. The desired information may be obtained from the local vegetable gardeners, successful growers of home gardens, from seed catalogues, the produce men in the community, or the various county, state and national agricultural organizations.

Although each of the foregoing conditions are of extreme importance, the use of high-grade seed true to type and selected from plants as nearly ideal as possible cannot be overemphasized as this is a fundamental factor in the production of vegetables of choice quality.

CLASSES OF MARKETS

The California vegetable grower has three large channels through which to market his produce: (1) the fresh vegetable market, (2) the canneries, (3) the dehydrators or vegetable driers. The choice depends wholly upon the conditions under which the vegetables are grown, as may be seen by the following discussion.

Fresh Vegetable Market.—By this form of selling one disposes of the fresh vegetables to wholesale distributors, stores, hotels, or families. A few of the advantages of selling vegetables by this method are that (1) smaller quantities may be sold than by the other methods, (2) opportunity to take advantage of a sudden rise in prices, (3) continuous income and quick returns, (4) large profits often realized. The chief disadvantage lies in the impossibility of judging what the market demand will be at the time of harvesting, and occasionally the grower may be unable to dispose of his crop.

The growers producing vegetables for the fresh market are dependent upon the demand and supply at time of harvesting, and although they may have an opportunity to realize a satisfactory and often very large net profit per acre, yet conditions are sometimes reversed to the extent that the grower fails to receive the amount necessary for the production or even the cost of harvesting of the crop. The factors which establish the price of a vegetable are not

necessarily influenced by the supply in any one district, but are directly controlled by the supply and demand in the distant markets in which the vegetables are sold. This was very clearly exemplified in the celery market a few years ago. At that time the acreage devoted to this crop in California was much larger than formerly, yet the growers received higher returns than were paid in the past. The price the California onion grower receives is largely dependent upon the acreage and the condition of the crop in Texas, and not necessarily by the acreage in this state. A sudden calamity, such as a heavy frost, floods, drouth, damage caused by insects or disease, to a large area in a competing state will occasionally double the ordinary price received by the California grower. The 1919 crop of Bermuda onions in Texas was seriously damaged during the season and advanced from $1.75 to $3.50 per crate to the Bermuda onion growers in California.

Methods of Selling Vegetables to the Fresh Market.—There are three methods of selling vegetables in the fresh market: (1) selling directly to the consumer, (2) selling to stores, hotels, restaurants, etc., and (3) selling in carload lots for shipment.

Factors to be Considered in Choice of Methods.—Before definitely deciding for which market one should grow there are many factors which should be considered, and this choice is one of the most common causes for success or failure. The size of the garden, location, distance from markets, size of local markets, labor and capital, crops which may be successfully grown, soil, moisture, climate, experience of the grower and amount of gardens in the immediate locality should be known.

SELLING DIRECTLY TO THE CONSUMER

By this method of selling one disposes of the products directly to the families by whom they are consumed. The chief advantage of selling vegetables in this manner is that the grower realizes a much higher price for his products than by any other method.

When lettuce brings 12½ cents per dozen in the wholesale markets, for example, the grower can often receive 30 to 60 cents per dozen from the wagon. Similar advancements in other vegetables are generally realized. The principal disadvantages of this method are the overhead expenses incurred by selling, the extra work in harvesting, cleaning, bunching, and the loss from unpaid bills. This method is most desirable in towns which depend largely upon distant markets for their vegetable supply; as a consequence the quality is somewhat

impaired from shipment and will not compete favorably with that of the well-grown local truck fresh from the garden.

In planning the garden to produce a crop for this market it is essential that a large assortment of vegetables be raised with limited amounts of each, and successive plantings should be practiced in order to have a continuous supply. Special attention should be given to quality and crops grown out of season. It is also imperative that regular trips be made so that the customers may be able to depend upon getting their supplies continuously. Where possible, the following crops should be raised: artichokes, asparagus, beans, beets, cabbage, carrots, cauliflower, celery, corn, cucumbers, eggplant, lettuce, melons, onions, parsley, parsnips, peas, peppers, potatoes, pumpkins, radish, rhubarb, spinach, squash, tomatoes, and turnips.

The most desirable size of the garden depends largely upon the market, varieties of vegetables, labor and capital supply. It is possible to make a satisfactory living from five acres of vegetable garden suitably located and managed, but ten acres is preferable, especially if considerable quantities of cabbage, corn and potatoes are to be produced.

The garden should be within easy hauling distance of the market as the added distance of hauling will add materially to the operating expenses. From one to five miles is preferable, but if an auto truck is used the distance may be lengthened with no detrimental results to ten or fifteen miles.

SELLING TO STORES, HOTELS, ETC.

In many localities of California this is preferable to the other methods, as the stores, hotels, etc., will take muc hlarger quantities than the retail market and the prices received are usually higher than if handled in carload lots. The expense of delivery is comparatively low and a considerable acreage may be cared for successfully. The garden may be operated advantageously at a greater distance from the market than by the former method, thereby making it possible to produce the crops on less expensive land. As a rule, the storekeepers, especially in isolated localities, prefer to secure locally grown vegetables rather than those shipped in from considerable distances and will generally allow the gardener the same price which he pays the distributors plus the cost of shipment. With satisfactory conditions as described above there are no serious disadvantages of marketing by this method.

In planning the garden for this market it is important to have as large an assortment of vegetables as possible and the seeding should be done in such a manner that a continuous supply may be delivered, for should the buyer be obliged to send away for a few vegetables the tendency will be to gradually rely upon the larger markets for his stock. The same assortment of vegetables should be grown as listed on page 16. The size of the garden will depend largely upon the market demands, crops grown, capital labor supply, etc., but the usual size garden varies from ten to twenty acres. Should the grower desire to produce more of a certain vegetable than the local market will purchase an acreage large enough should be planted to make it attractive to the wholesale buyer. This, however, should not be done at the expense of supplying satisfactorily the demands of the local customers.

SELLING IN CARLOAD LOTS

By this method of selling the vegetables are shipped in carload lots, usually only one kind in each car. There are many localities in Califorina specially adapted to growing one or more kinds of vegetables which compete successfully with those produced elsewhere in this and other states. Owing chiefly to the improvement in the various selling and shipping organizations these vegetables find a ready market throughout many parts of the United States. The eastern demand for California-grown vegetables, such as lettuce, spinach, cauliflower, cabbage, celery, asparagus, onions, etc., produced during the winter and spring has been so urgent that the crops grown under favorable conditions have as a rule returned very satisfactory profits to the grower.

Advantages.—The location of the garden is independent of the local demand, and as the farms may be situated in rural districts the land rentals and values are often much below those on land producing vegetables for the local markets. Usually large quantities of one or more vegetables are grown, making it possible to secure valuable information from old established, experienced growers, and from the representatives of various selling organizations who usually have experienced men continually in the locality. A grower producing vegetables for this market seldom has over two kinds growing at the same time, and as a result he becomes a specialist in growing certain crops and hence becomes more proficient. It is usually easier to secure experienced help than when a larger assortment is grown.

Disadvantages.—The chief disadvantage is the greater liability of failure owing to the small number of vegetables grown and the larger amount of each. Further, the liability to loss, by a sudden attack of disease, extremely hot or cold weather, or over-supplied market, is much greater when a few kinds are being grown than where one grows a large assortment.

Planning the Garden.—In planning the garden it is important that large enough quantities of each vegetable be grown to make it possible to ship in carload lots. As the grower will be under heavy expense owing to the large acreage planted he should be sure the crop he has selected will produce satisfactorily in yield and quality, for the competition in these long distance markets is more keen than is commonly found when selling locally.

The importance of location cannot be overestimated, for unless the soil, moisture and climatic conditions are congenial to the crops grown, the quality of the products will be inferior. Where possible, only those vegetables which have proved to be adapted for the immediate locality should be planted and it is desirable to locate in a district from where large quantities are being shipped. Nearness to town is of little importance as compared to the distance from a desirable packing house or shipping point. The growing of a large acreage of one vegetable is a specialized business and should not be undertaken by one who has not had considerable former experience as the profits or losses are largely dependent upon the time of maturity and quality of the crops grown. The most desirable size of the garden depends upon the previous experience of the grower, crops to be grown, capital, labor supply, etc. Some growers plant five or ten acres, while others will have several hundred acres of one vegetable. The most common size garden varies from twenty to sixty acres.

METHODS OF SELLING FRESH VEGETABLES IN THE MARKETS

There are five principal methods of disposition: (1) selling on consignment, (2) selling f.o.b. loading station, (3) selling f.o.b. destination, (4) selling by contract drawn up prior to planting or before crop is matured, and (5) shipping independently.

SELLING ON CONSIGNMENT

When marketing by this method the crops are shipped to a commission merchant who finds a purchaser and takes out of the gross returns all transportation and delivery charges and retains a certain

percentage as his share. The grower does not know the destination of the car, nor the purchaser, and will not receive his remuneration until the produce is sold.

Advantages.—By this method the grower profits by the marketing experiences and organization of the shipper and will obtain the highest possible price for his product provided he deals with a well-organized distributor who bears a reputation for honesty and successful marketing. This method is specially advantageous to the large shipper or to one who is a member of an association which handles a large amount of truck. If the market advances during the time required for shipping to distant markets, which usually takes from seven to fourteen days, the grower gets the benefit.

Disadvantages.—The chief disadvantage is the uncertainty of the price which the market will offer and it may sometimes happen that the grower will not receive an amount sufficient to defray the transportation and other charges. A grower shipping through an inexperienced commission house may lose by the latter's poor organization or judgment. The chance of losses through dishonesty is greater by this method than the others and the grower should investigate thoroughly the reputation of the firm through which he is shipping.

SELLING F.O.B. SHIPPING POINT

By this method of disposition, the grower sells his crop for cash at the time of delivery to the car or boat and all transportation and future charges are paid by the purchaser. The buyer, therefore, owns the produce from time of delivery until it reaches its final destination and does not handle the crop on commission. It is always best to have a representative of the buyer inspect, weigh or count the produce as it is being loaded, as this relieves the grower of all future responsibility after the checking.

When shipping large quantities, one price may be agreed upon through the entire shipping season or a weekly or daily price offered. As an example, garden corn usually brings $2 to $3 per sack at the commencement of the shipping season at Sacramento, but later drops to $1. By accepting a price of $1.50 per sack during the entire shipping season the grower would receive about the same amount as if the price was changed each week. It is imperative that a contract be made and the grower should have confidence in the buyer's honesty.

Advantages.—The chief advantage of shipping by this method is that the grower knows what price he is to receive at time of delivery

and is not affected by any change in the market quotations or conditions of vegetables after time of delivery. Generally he receives his remuneration within a few days of delivery which is seldom the case when shipping on commission. If the value is so low that it will not pay to remove the crop, the grower may defer the harvesting until such time as the market is more favorable or plow it under, thereby eliminating considerable expense. The risk is much less by selling at shipping point and as the grower knows the buyer personally there is a minimum liability of loss by dishonesty. This method is often preferable for the small producer provided it is impossible to become a member of a growers' association.

Disadvantages.—There are two chief disadvantages of this method of marketing: Owing to the heavy expense of shipping and the uncertainty of the market at the time of delivery, which is considerable, especially when shipping to long distance markets, the shipper offers a low enough price to protect him as far as possible against market fluctuations. Occasionally the value of the produce will advance between delivery and the time of selling and the extra profit is shared only by the shipper.

SELLING F.O.B. DESTINATION

This differs from the loading-point sale, in that the grower ships to the buyer's market and receives the market price offered at the day of arrival. The grower pays the transportation charges which are deducted from the gross receipts received. The buyer does not handle the produce on commission but purchases the vegetable outright. As a general rule, selling at the loading point is preferred to this method.

SELLING BY CONTRACT

This method may be used in three ways: contracting before crop is planted, during the time the crop is growing, or at the time of harvesting. It enables the grower to know the price in advance of delivery. Occasionally when the buyer expects a heavy demand for the vegetable about the time it is matured, he will often offer an attractive figure in order to control the crop. It may be readily estimated whether or not the producer can afford to sell the vegetable at the price offered and it is often best to accept the figure which insures a fair margin of profit rather than anticipating what the value will be at time of maturity. A grower who thus disposes of the crop

is often able to borrow sufficient money from the purchaser to pay a considerable portion of the cost of production.

A written contract should be made at the time of selling stating the price and period of deliveries. It is also well to have an agreement specifying that the crop may be delivered when in proper condition to harvest and the grade that will be accepted. The only disadvantage inherent in this method is that a higher price might be received by deferring selling until a later date.

SHIPPING INDEPENDENTLY

By selling in carload lots independently the grower finds his own distant market and endeavors to eliminate the profit of the middleman. Unless the producer is well established this is a very hazardous method to employ and many who have so handled their vegetables have met with partial or total failure.

It should be remembered that all of the large shipping concerns have very complete and well established branch offices or agents in the leading vegetable markets in the United States, and are in constant touch with market conditions throughout the country. Hundreds of cars of vegetables are shipped annually whose destination is not known at time of starting but are billed to certain eastern diverting points where their route is always subject to change depending upon the demands of the many markets. It is, therefore, impossible for an individual grower to determine a week or two ahead the market to which it is most desirable to ship, and he should never try to compete with shipping firms unless special arrangements have been made for the acceptance of his produce at a stated price.

VEGETABLE MARKETING ORGANIZATIONS

During the past fifteen years there have been a large number of vegetable coöperative growing and selling organizations, generally called associations, established throughout California. Many existed but a very short time; there are, however, a number of such associations which are still in existence and several have become so well established that their continuance appears to be permanent.

The failures were usually caused by dissatisfaction, poor management, disloyalty of the members, and discontinuance of production of vegetables.

Many associations were started under conditions which proved to be disastrous from the start, due largely to the location, volume of business, quality and times of maturity of crops handled, and local management.

CONDITIONS UNDER WHICH TO ORGANIZE

By a careful study of the principal causes for failure or success, it was found that the following conditions existed in the association which were being conducted satisfactorily:

1. Volume of business large enough to warrant the employment of high class, experienced men. It is impossible to build up a satisfactory organization unless the men who have charge of the various departments are well qualified for their work. The failure to recognize this fact has been responsible for many disastrous results and it is very poor judgment to employ inexperienced men for these important positions. In some instances where failures occurred the farmers themselves were conducting the business of the association. A producer is seldom a satisfactory manager or packing-house foreman, as these two positions require men who can devote all their time to this work and a large amount of previous experience is necessary.

2. Acreage sufficient to warrant continuous carload shipments throughout the season. The best results can only be obtained when the association is operating continuously throughout the entire year, handling a variety of vegetables during the various seasons. This not only assures the men steady employment but keeps the association continually before the buyers. When purchasing large quantities of produce the buyers much prefer a continuous supply, for after introducing special brands regular shipments are commonly called for. If the acreage is so small that the packing house is idle several days per

week it will be impossible to hold the men unless they are paid continuously, which would increase the cost of operation to such proportion that the growers would be tempted to use other methods of disposal. Many associations are, however, active only from three to six months a year, but during that period continuous shipments are made, thereby bringing the cost of operation as low as possible while the plant is being operated.

3. Constant coöperation and loyalty of members is essential, for in order that any association may be successful it is imperative that the members be loyal to the association. Dissatisfaction of the growers has been the direct cause of failure more than any other factor, for even though all other conditions are favorable the organization will never succeed if the members are not congenial. It has always been difficult and many times impossible to secure the desired coöperation among the growers as they are commonly offered higher prices by competing shippers than the association is paying. This is done in an attempt to break up the organization; as soon as this is accomplished the prices will invariably drop. At least from 60 to 75 per cent of the vegetables planted in the immediate vicinity should be handled through the organization in order to insure success.

4. The crops grown must be of desirable quality and mature during the season in which they are in demand. It would be unprofitable to ship any vegetable to distant markets which are being fully supplied by the local growers. Lettuce is in small demand in the East during July to September, but will usually find a ready market from October to June. The cost of packing, handling and shipping to distant markets is considerable and the final price is so high that unless the quality is of the best it will be impossible to sell advantageously. The vegetables should be put up in attractive packages and graded carefully so as to conform as closely as possible to the market requirements.

Advantages of Growers' Associations.—There are many advantages to be derived from a well organized association, a few of which are as follows: (1) It is especially advantageous to the small grower who would not have enough produce to interest the wholesaler and could not dispose of his crops locally. (2) Higher prices generally realized owing to the large quantity shipped, superior quality due to expert supervision, uniform pack, and encouragement of competition between selling agencies. (3) Steadier demand because of the large, constant supply. (4) Grower is not directly confronted with marketing problem which enables him to devote all his time and efforts to production. (5) It is much more convenient for a buyer to deal with

an association of growers than to contract and inspect crops from a large number of small producers. (6) Opportunity of obtaining valuable information, especially for the inexperienced grower, at the meetings of the association where papers are presented and discussions are carried on by the more successful growers, shippers or experts from the various national, state, and county agricultural organizations.

Some of the principal difficulties of starting an association are as follows: (1) Obtaining the continuous support of the members, (2) securing capable men as managers of the various departments, (3) difficulties of financing, (4) securing sufficient acreage, (5) exorbitant demands which are sometimes made to the buyers which tends to discourage the various selling agencies.

METHOD OF ORGANIZING

In some communities where growers' associations have been proposed the farmers experienced difficulty in adopting the proper method of procedure. They have been unable to conduct the meetings in such a manner as to make plain the basis under which the organization is to be formed and carried on, and the benefits to be derived.

The following method of organization has been successfully introduced and is herein given as a suggestion for the establishment of new associations. (1) Call a general meeting of growers in the district. (2) Outline the advantages of such an association and give in detail the future plans. (3) By vote, find the number of growers who would become members and the acreage available if such an organization were started. (4) Elect a board of directors composed of five or seven of the local leading growers of the vegetables to be shipped. It is customary to pay the directors a nominal fee for their services. (5) Elect a president. He may either be selected by the board of directors or by general vote, and should be chosen from the directors.

Duties of President.—It shall be the duty of the president to preside over the meetings of the directors and to keep in constant touch with the dealings of the association. As considerable time and effort is needed for his duties, the president usually receives remuneration during the period the association is active.

Duties of Board of Directors.—It is very important that the directors be carefully chosen and are men who have considerable business ability and have the confidence of the members, for they are largely responsible for the business of the association. The members of the board are generally large producers of the vegetables shipped.

The board usually meets weekly or monthly, depending upon the amount of business to be transacted and all matters of importance are brought before them for final consideration. The directors hire a manager who is paid a salary and devotes all his time to the business of the association. It is not necessary that a local man be chosen for this position.

Duties of the Manager.—This is the most important position in the association and too much care can not be taken in choosing the proper person. An ideal manager should be well acquainted with the crops grown and shipped and his personality should be such that he is able to keep the growers satisfied. He should also have had considerable former experience in packing and shipping vegetables, be acquainted with the various methods of selling, and know personally the leading shippers through whose firms the produce will be handled. Above all, he should be a man with good judgment and considerable business experience. A man of such qualifications is worth and should be paid as high a salary as the business will permit.

The manager is responsible for all contracts made, choice of crops, amount planted and all business dealings of the association, such as choosing the firms through which to ship, collection and distribution of the money to the various growers, and the issuing of shipping instructions. If the association is large enough to warrant it, he hires a packing-house foreman and one or more field men, all of whom should be experts. It is usually necessary to have one or more stenographers or bookkeepers. The manager should make a formal report of business transactions at each meeting of the board of directors.

Packing-House Foreman.—This position should be held by one who understands packing and grading vegetables and is capable of keeping accurate accounts of the amount of produce brought in by the various members. He also hires the necessary labor for making crates, packing, grading, etc.

Duties of the Fieldman.—To be a successful fieldman it is necessary that detailed knowledge should be had as to the proper varieties, time of planting, and cultural requirements, etc., of the crops to be grown. He must also be well acquainted with the local conditions and it is often advisable to choose a successful local grower for this position. He should also have the confidence and respect of the members for he is in more constant touch with them than any other member of the association.

The fieldman places the contracts with the various growers and is responsible for the conditions of the crops from time of planting until

they are delivered at the packing house. He also advises the inexperienced members and gives directions when each grower shall plant and harvest his crop, for it is very important that such vegetables as lettuce, cabbage, celery, etc., be managed in such a manner that there will be as long a shipping season as possible.

Other officers, such as treasurer and secretary, etc., may be appointed by the manager or board of directors.

Growers' Relations to Association.—The individual grower has very little to do with the business of the association and should abide by the decision of the directors, president and manager, for it has been found impossible to successfully operate when the authority is vested in a large number of people.

If there is a large membership there is always the possibility of grievances and these should be sent in to the directors' meetings for consideration. Meetings of all members are held occasionally during the season, at which time important questions are usually considered. It is also a good plan to hold open meetings occasionally where discussions may be carried on or addresses given by experts or local members. These are especially desirable when any topic of general interest, such as control of some disease or insect pest, is of vital importance.

At the beginning of the season each member is given a number and all produce which is accepted by the association is credited to his account. It often happens that several growers will have vegetables in the same car and when the returns are received they are divided according to the amount each grower has shipped. In some associations the growers' number is stamped on each crate before shipping, which is often very desirable. All vegetables should be up to a certain standard set by the association before being accepted.

The grower cannot sell vegetables that he has agreed to ship through the association, to any other shipper without first obtaining a release from the association of the crops so disposed of, nor can he withdraw from the association during the life of the contract which has been made.

Method of Financing.—The association is not a profit-making concern but a charge is made for handling the produce, sufficient only to defray the cost of operation; any surplus is returned to the members at the end of the season, the amount determined by the quantity shipped by each grower. It is necessary to obtain enough capital to meet the cost of operation until the shipping season starts, at which time the organization should eventually become self-supporting. The money for the establishment of the association or the financing of the

growers may be secured by two methods: (1) Board of directors borrowing money from local banks in the name of the association if incorporated, or over their individual signatures if not incorporated. (2) By arrangements with the shipping firm through which contract is made for handling the crops. In this case the money is advanced by the distributor to the association and they in turn may loan the money to the individual growers.

The expenses of the association are met by retaining a small percentage of the net sales of the product which would be determined by the volume of business handled through the association and the total amount of expenses. As it would be difficult to determine at the beginning of the season the amount to be retained, it will be necessary to estimate somewhat in excess above the actual expenses, and the remainder is returned to the growers at the end of the season.

Methods of Selling.—Any of the methods of selling may be used, and the selection is usually left to the manager or directors. However, it will normally be found more advantageous to ship on commission, provided a reliable, well-organized distributor is selected who bears a reputation for successful marketing.

LEADING VARIETIES OF VEGETABLES FOR CALIFORNIA

In table 1 will be found a list showing the leading varieties of vegetables and the season in which each is in most demand. It is impracticable to mention all the varieties which are being successfully grown, and some which are listed are not adapted to all sections of the state.

The climatic conditions in California are so variable that it is impossible in most localities to mature the various vegetables during as long a period as shown in the table, but the crops are being shipped in carload lots from some sections of the state during the months indicated.

Table 1.—Leading Varieties of Vegetables and Most Desirable Shipping Period

Vegetables	*Varieties*	*Most Desirable Shipping Period*
Artichoke	French Globe	Dec.–Apr.
Asparagus	Palmetto	Feb.–Apr.
Beans	Golden Wax	Mar.–June, Oct.–Jan.
Beans	Kentucky Wonder	May–July, Oct.–Dec.
Beets	Crosby's Egyptian	Dec.–June
Beets	Detroit Dark Red	Dec.–June
Brocolli	Black Brocolli	Jan.–Apr.

Table 1—(*Continued*)

Vegetables	*Varieties*	*Most Desirable Shipping Period*
Brussels Sprouts	Half Dwarf, Paris Market	Oct.–Mar.
Cabbage	Winningstadt	Jan.–Mar.
Cabbage	Copenhagen Market	Nov.–June
Cabbage	Early Flat Dutch	Nov.–June
Cantaloupes	Rocky Ford	May–July
Carrots	Danvers Half Long	Nov.–June
Carrots	Oxheart	Nov.–June
Carrots	Chanteney	Nov.–June
Casaba	Golden Beauty	Oct.–Jan.
Cauliflower	Early Paris	Oct.–Nov.
Cauliflower	Snowball	Nov.–Jan.
Celery	Golden Self-blanching	Oct.–Jan.
Celery	White Plume	Sept.–Dec.
Corn	Early Crosby	Mar.–Dec.
Corn	Early Minnesota	Mar.–Dec.
Corn	Stowell's Evergreen	Mar.–Dec.
Cucumbers	Long Green	Apr.–July
Cucumbers	White Spine	Oct.–Dec.
Egg Plant	N. Y. Spineless	May–July, Oct.–Dec.
Lettuce	Los Angeles, Iceburg	Oct.–June
Onion	Australia Brown, Yellow Globe	All year
Onion	Danvers, Bermuda	All year
Parsnips	Hollow Crown	Nov.–Apr.
Peas	Horsford's Market Garden	Nov.–May
Peas	Alaska	Nov.–May
Peas	Telephone	May–July, Oct.–Dec.
Peppers	Bull Nose or Large Bell	May–July, Oct.–Dec.
Potatoes	American Wonder	Nov.–July
Potatoes	Burbank, Early Rose	Nov.–July
Pumpkin	California Cheese	Oct.–Jan.
Radish	Scarlet Turnip	Oct.–June
Radish	Long Scarlet	Oct.–June
Rhubarb	Wagner Crimson Winter	All year
Rhubarb	Burbank Crimson Winter	All year
Rhubarb	Strawberry	Feb.–June
Spinach	Prickly Winter	Oct.–Feb.
Spinach	Long Standing	Feb.–May
Summer Squash	White Bush Scallop	May–Dec.
Summer Squash	Yellow Crooked Neck	May–Dec.
Tomatoes	Stone	Dec.
Tomatoes	Sparks's Earliana	Apr.–July
Turnips	Purple Top White Globe	Nov.–May
Winter Squash	Hubbard	Oct.–Feb.

In table 2 is shown the market requirements of the various vegetables; the quality must be up to the standards of the market in order that top prices may be received.

Table 2.—Market Requirements of Vegetables

Artichoke: Medium size, solid.

Asparagus: Large, tender stalks, uniform in size, heads firm.

Beans: Large, well-developed beans and pods, free from rust or worm holes. Uniform in size.

Beets: Uniform in size and shape, dark red in color throughout the interior and on surface.

Brocolli: Medium size white, smooth, solid heads; no leaves should appear between segments.

Brussels Sprouts: Solid, well developed, uniform in size, highly colored, free from aphis.

Cabbage: Solid, medium large heads, free from aphis or worm injury; uniform in size.

Cantaloupe: Uniform in size, color, solid, degree of ripeness determined by method of marketing.

Carrot: Highly colored throughout, uniform in shape and size and absence of core in center.

Cauliflower: Same as Brocolli.

Casaba: Uniform in size, highly colored, flesh firm, small seed cavity, degree of ripeness determined by method of selling.

Celery: Well blanched, stalks tender and of fine texture, highly flavored, crisp and of uniform size, free from blight and insect injury.

Corn: Large ears, small cob, large, well-filled kernels, especially near tip, sweet in flavor and not over-ripe, rows even, ear as free from worm injury as possible.

Cucumbers: Uniform in size, solid, straight, smooth outer surface deep green in color, flesh white. A long slender cucumber is not as desirable as one medium in length and thick.

Egg Plant: Highly colored, small seeds, and uniform in shape and size.

Lettuce: Large solid heads, crisp leaves, free from sunburn, aphis injury, or interior rotting.

Onion: Firm, large, outer skin thick and tight, free from sunburn and thoroughly cured, especially for storage and long distance shipments.

Parsnips: Medium in size, gradually tapering to end of root, straight, smooth, tender in flavor.

Peas: Large, well-filled, highly colored pods, peas tender and sweet in flavor; pods free fro minjury from aphis, frost or mildew.

Peppers: Large, uniform in size and shape, dark green; flesh thick.

Potatoes: Smooth, medium sized, carefully sorted, skin firm, white throughout interior, mealy in texture, uniform in shap, free from disease or insect injury.

Pumpkin: Medium sized, thick flesh, highly colored, small seed cavity.

Radish: Crisp,. mild in flavor, highly colored, medium in size.

Rhubarb: Large, highly colored stalks, uniform in size and tender.

Spinach: Medium size leaves, green in color and tender, free from aphis injury.

Summer Squash: Solid, small seed cavity, thick flesh, medium size.

Tomatoes: Dark red in color, solid, small seed cavity, flesh firm, and uniform in shape and size; degree of ripeness determined by method of selling.

Turnips: Medium large, sweet, uniform in size and shape, absence of core in center.

Winter Squash: Large, thick flesh, hard shell, highly colored, small seed cavity.

PRODUCING VEGETABLES FOR THE CANNERIES

The vegetable canning industry has increased very rapidly in California during the past five years, and there is now located one or more canneries in each of the vegetable growing centers of the state. Thousands of acres of vegetables are annually produced in California for canning purposes, and under favorable conditions for production this method of marketing is very satisfactory to the producer.

The following are the principal advantages in growing vegetables for this market: (1) The grower knows before time of planting the price he will receive for his crop; (2) a steady market is assured; (3) a larger acreage of certain vegetables may be grown than when producing for the fresh market; (4) a minimum amount of risk is assumed by the grower.

The principal disadvantages are that the canneries prefer to contract for a considerable acreage, which makes it undesirable for the one who is farming only a few acres. The prices offered are usually below what would be received in the fresh market, but this is often offset by the large volume of business and stabilized prices. The principal vegetables used are asparagus, tomatoes, peas, cabbage, beans, spinach, squash, pumpkin, rhubarb, cucumbers, and root crops. The usual amount of land planted for the canneries varies from ten to several hundred acres.

The same care in the selection and care of crops should be exercised when growing for the cannery as when producing vegetables for the fresh market.

Contracts for producing vegetables for the canneries may be secured through the manager, buyer or field men.

PRODUCING VEGETABLES FOR THE DRIERS

Vegetable driers have now been installed in many sections of California, and in certain districts their continuance appears to be assured. The grower who is producing for this market may either contract his crop in advance, as when growing for the cannery, or dispose of his vegetables at the market price at time of delivery. Under normal conditions, the former method is preferable.

[20*m*-12,'19]